

# **EP0408400A1**

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Shelving systems.

Abstract:

Abstract of EP 0408400

(A1) A shelving system, for the display and supply of articles, comprises a generally rectangular flat floor portion (1) having front and rear wall members connected to its front and rear edges respectively; in which each of the front and rear wall members comprises an upstanding wall portion (2) connected to a base portion (3) having a generally horizontal slot or recess (4) extending along the wall member, the slot or recess having a downwardly protruding lip (7) in its upper wall, the respective edge of the floor portion engaging in the slot or recess in the respective wall member and being held therein by engagement of the lip in the slot or recess with a depression or groove (4) in the floor portion.

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### (54) Shelving systems.

(57) A shelving system, for the display and supply of articles, comprises a generally rectangular flat floor portion (1) having front and rear wall members connected to its front and rear edges respectively; in which each of the front and rear wall members comprises an upstanding wall portion (2) connected to a base portion (3) having a generally horizontal

slot or recess (4) extending along the wall member, the slot or recess having a downwardly protruding lip (7) in its upper wall, the respective edge of the floor portion engaging in the slot or recess in the respective wall member and being held therein by engagement of the lip in the slot or recess with a depression or groove (6) in the floor portion.

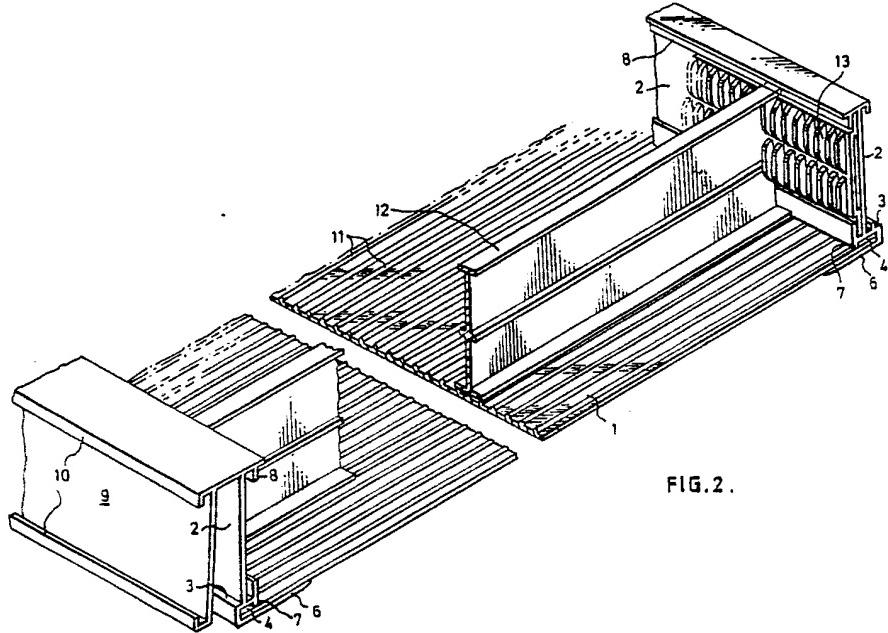


FIG. 2.

This invention is concerned with improvements in and relating to display and supply shelving systems. More particularly, the invention is concerned with such shelving systems which are particularly suitable for the display and supply of articles, such as canned drinks, ice creams or the like, displayed and stored within refrigerated or chilled cabinets.

It is known to store articles such as canned drinks within chilled cabinets, particularly chilled cabinets having front-opening glass doors whereby the contents of the cabinet are also effectively displayed. It is further known in such an arrangement to have the shelf or other support upon which the articles are stored to be inclined downwardly from the rear to the front of the cabinet, so that when an article is removed from the front of the cabinet there is a tendency for the space to be filled up under the action of gravity on the remaining articles on the shelving.

It is an object of the present invention to provide a readily assembled shelving system for use in refrigerated display cabinets and the like, which display system is simply constructed and lends itself to the production of shelving systems of different dimensions for use in a wide variety of chilled cabinets.

In accordance with one embodiment of the invention, there is provided a shelving system for the display and supply of articles, which shelving system comprises a generally rectangular flat floor portion having front and rear wall members connected to its front and rear edges respectively; in which each of the front and rear wall members comprises an upstanding wall portion connected to a base portion having a generally horizontal slot or recess extending along the wall member, the slot or recess having a downwardly protruding lip in its upper wall, the respective edge of the floor portion engaging in the slot or recess in the respective wall member and being held therein by engagement of the lip in the slot or recess with a depression or groove in the floor portion.

In order that the invention may be well understood reference will now be made to the accompanying drawings in which:

Fig. 1 is a cross-section through a shelving system in accordance with the invention; and Fig. 2 is a partial perspective view of the shelving system shown in Fig. 1 also showing a shelf divider and also illustrating a preferred form of floor portion.

Fig. 3 is a partial perspective view of the shelving system shown in Fig. 2 showing two forms of product stopper; and

Fig. 4 is a partial perspective view of the shelving system shown in Fig. 1 illustrating another form of shelf-divider.

As shown in Fig. 1 of the drawings a shelving

system in accordance with the invention comprises a floor portion 1 supported, by means not shown, at an angle to the horizontal (typically 10-20°, especially about 15°) and having front and rear wall portions connected to the front and rear edges of the floor portion, respectively. Each of the front and rear wall portions comprises an upstanding wall member 2 connected to a base 3 having a slot 4 therein, defined by upper wall 5 and lower wall 6; lower wall 6 preferably, as shown in the drawing, being wider than upper wall 5 and extending inwardly (towards the other wall) to afford better support for floor member 1 which engages in slot 4. Upper wall 5 of each slot has a downwardly protruding lip 7 which engages in a corresponding groove in floor portion 4.

As shown in Fig. 1, each of the wall members also has an elongate channel defined by wall members 2 and flanges 8, this channel serving, as discussed below, to support shelf dividing means.

The front wall portion is further provided with a front wall member 9, arranged generally vertically when the floor of the shelf system is inclined as shown in the drawing, this front wall being provided with a further channel (defined by flanges 10) for the support of labelling material.

Each of the wall portions is preferably formed as a single unitary extrusion of plastics material. The floor portion 1 is also preferably formed of plastics material and, most preferably, is provided with a friction reducing surface.

As shown in Fig. 2 of the drawings, the upper surface of floor portion 1 is preferably provided with upstanding ribs 11 running at right angles to the front and rear edges of the floor portion.

In order to sub-divide the shelf laterally dividers 12 may be provided supported by divider support means 13 engaging in flanges 8 in front of rear wall portions. Other forms of divider may, of course, be employed depending on the nature of the articles to be displayed; and thus, for example, rod-like dividers may be employed for larger drink bottles.

In order to permit of better cooling, the floor portion may be perforated to allow the passage of air.

It may be desirable in some cases to provide a shelving system in accordance with the invention with a product retainer or stopper, mounted towards the front (lower) end of the shelf. Examples of two forms of such product retainer for use with the shelf divider shown in Fig. 2, are shown in Fig. 3. The first product retainer (suitable for use with canned products such as canned drinks) comprises a detainer wall 14 perforated to enable it to slidably engage with divider 12 and having projections 15 to prevent it from sliding too far towards the front of the shelf. The second form of product retainer

similarly comprises a retaining wall 16 which is simply provided with a shaped slit 17 to allow it to slidably engage with divider 12. This form of product retainer is suitable for use with square pack or so-called "tetra" pack.

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In Fig. 4 there is illustrated an alternative form of shelf divider comprising a rod 20 (typically of metal or plastics coated metal), having two downwardly directed ends each of which engages in a cup shape portion 19 integrally formed with a slider 18 in an end wall of the shelving.

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### Claims

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1. A shelving system, for the display and supply of articles, which shelving system comprises a generally rectangular flat floor portion (1) having front and rear wall members connected to its front and rear edges respectively; in which each of the front and rear wall members comprises an upstanding wall portion (2) connected to a base portion (3) having a generally horizontal slot or recess extending along the wall member, the slot or recess having a downwardly protruding lip (7) in its upper wall, the respective edge of the floor portion engaging in the slot or recess in the respective wall member and being held therein by engagement of the lip in the slot or recess with a depression or groove (4) in the floor portion.

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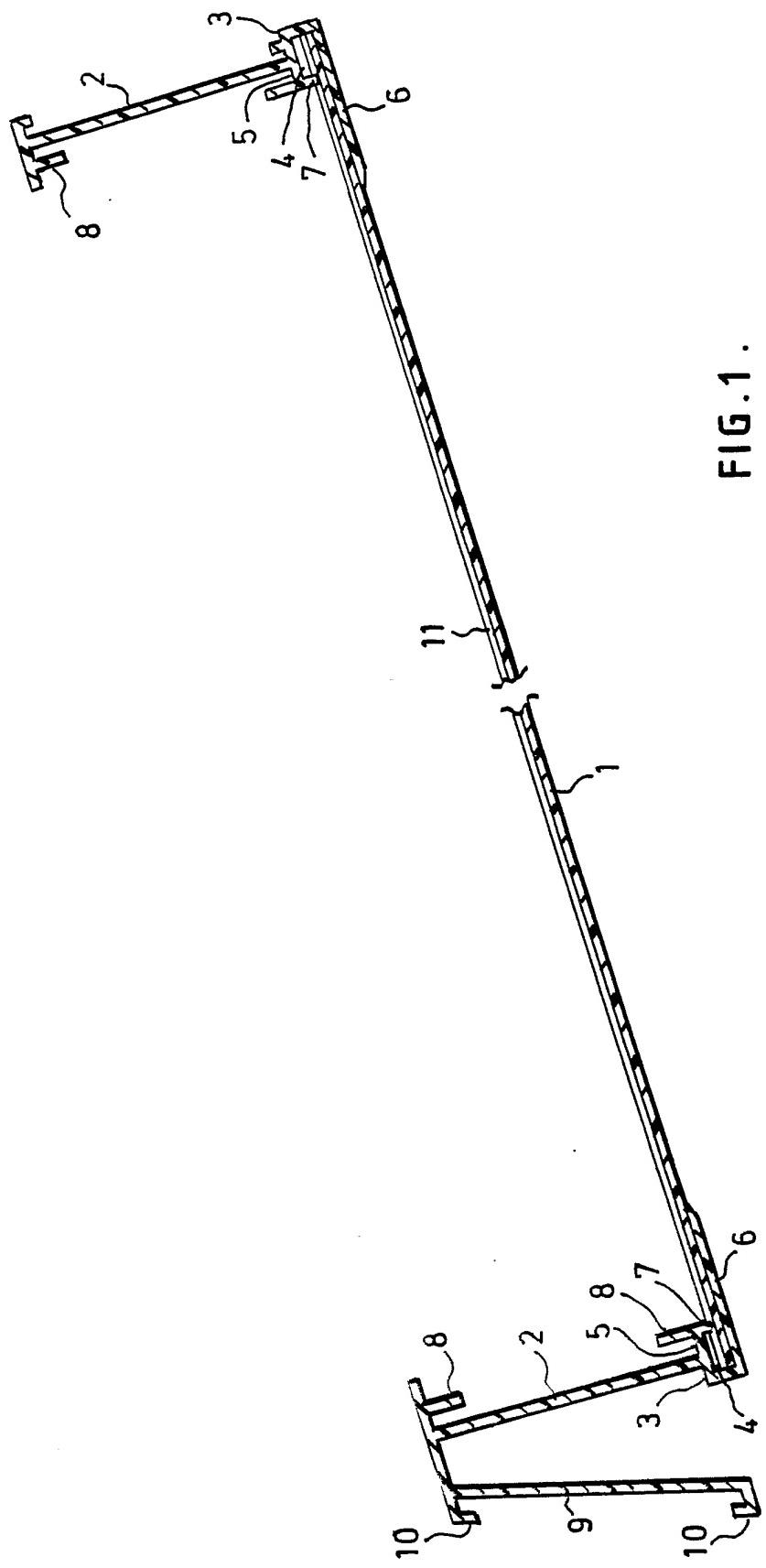
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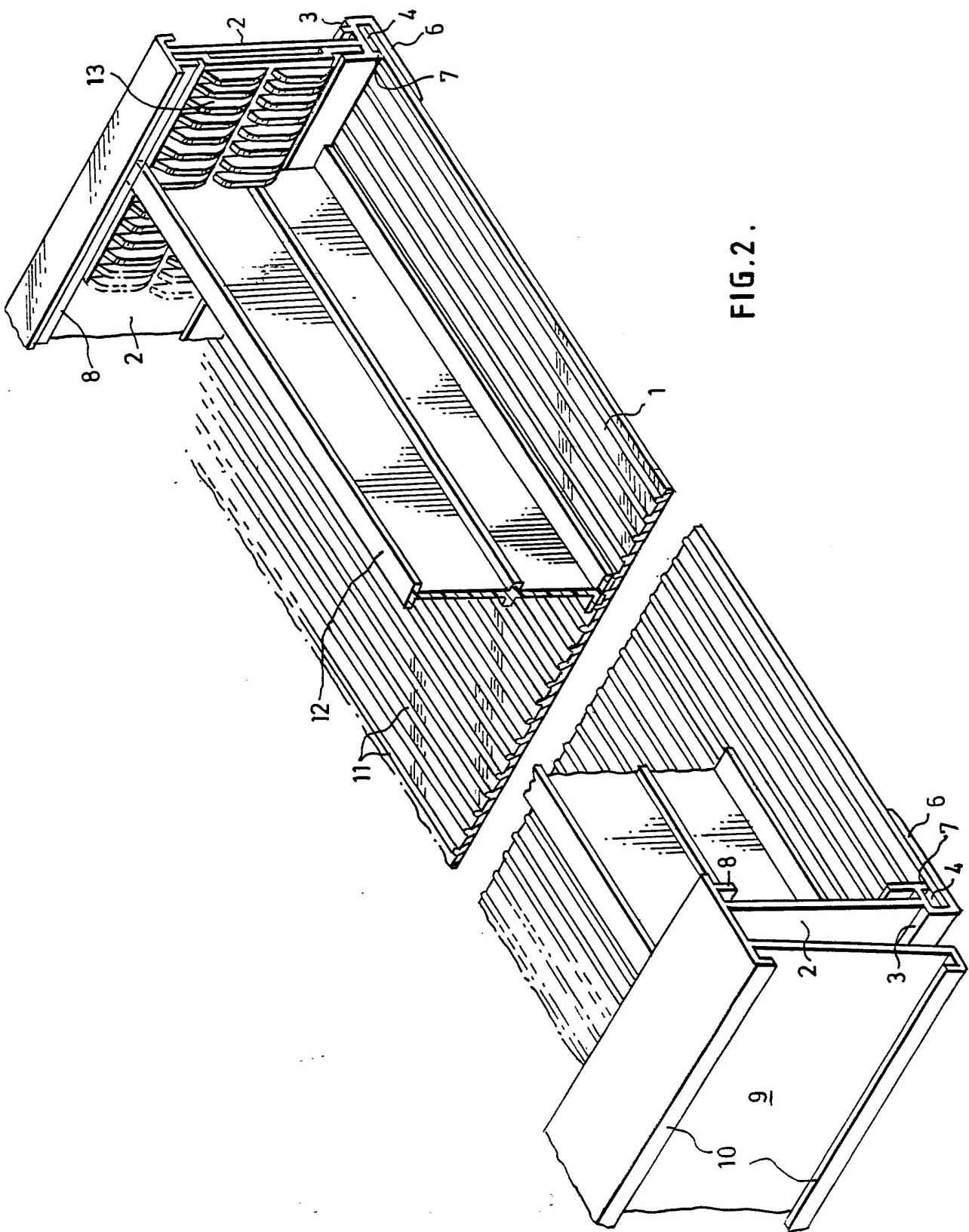


FIG. 2.

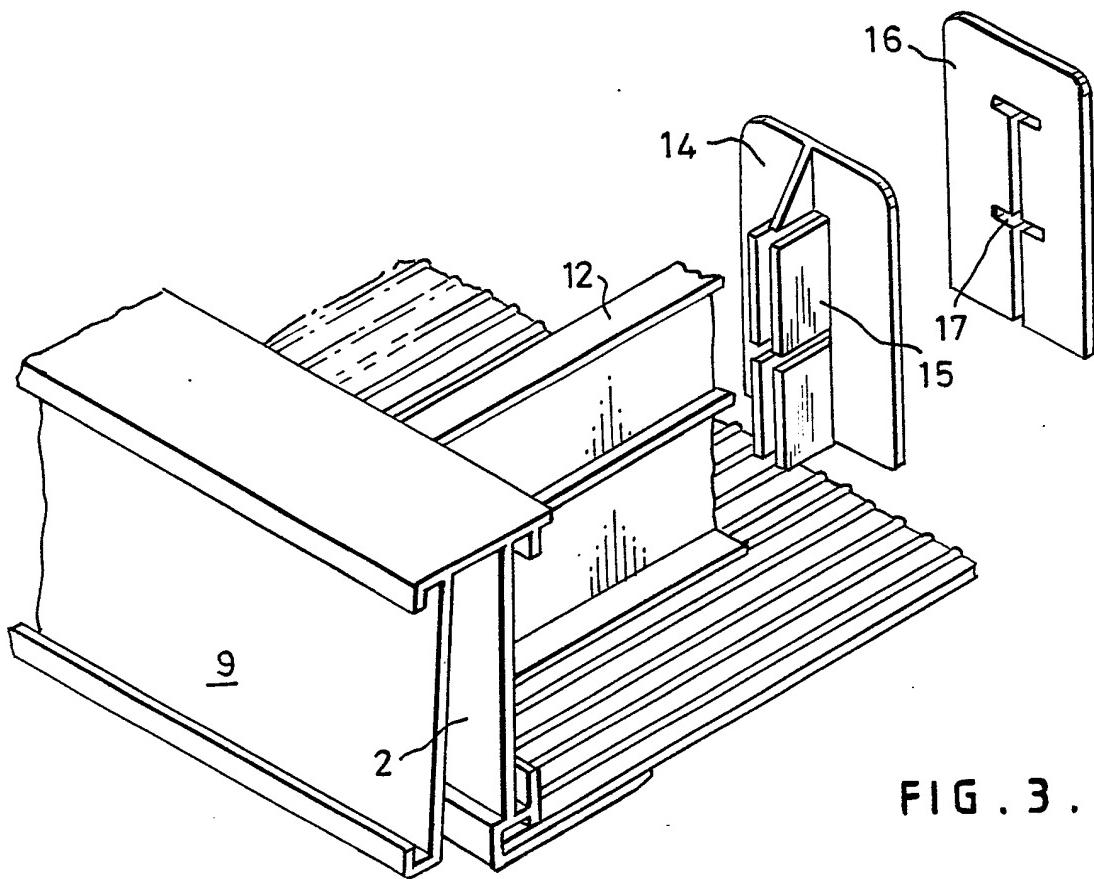


FIG. 3.

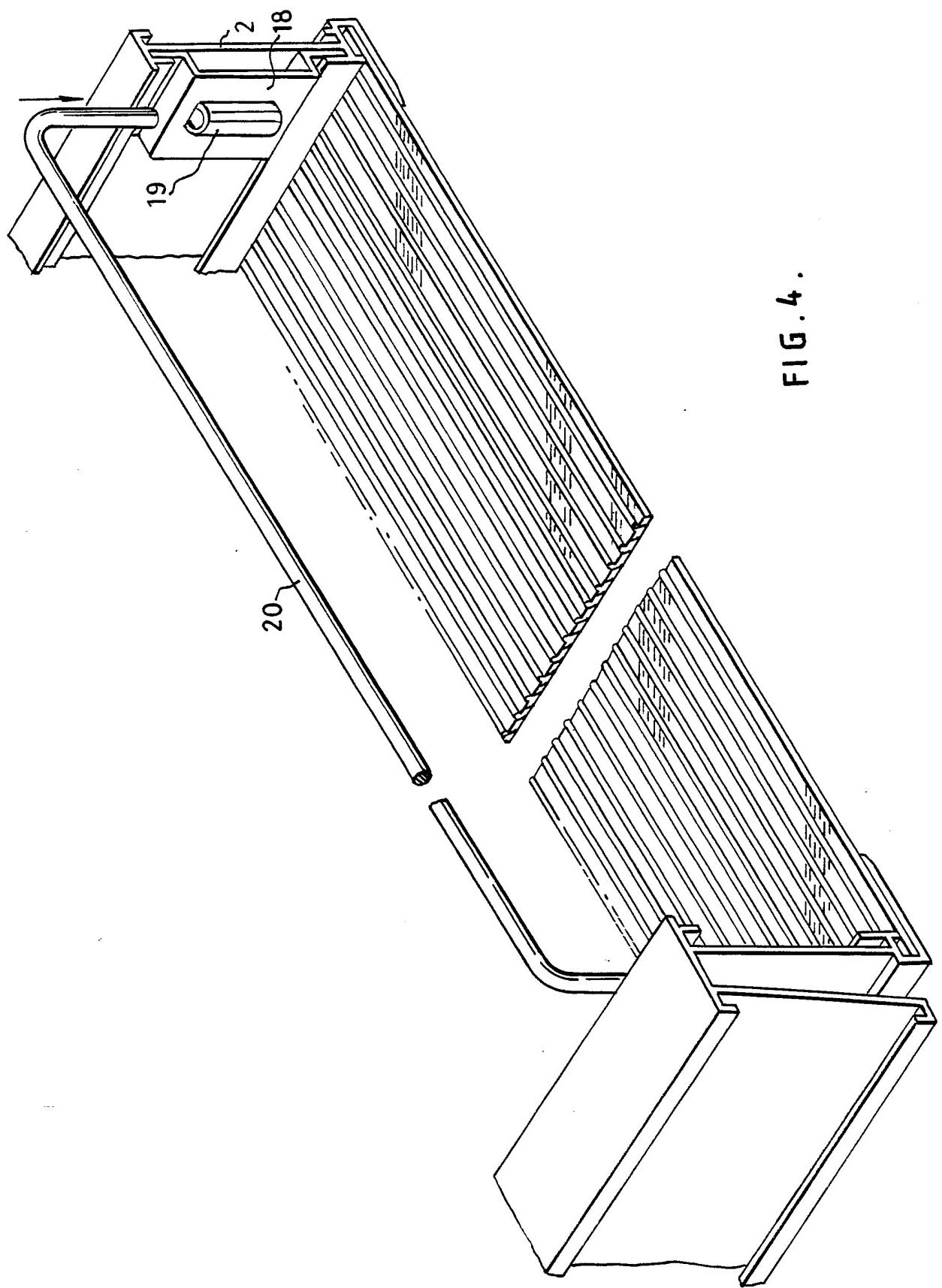


FIG. 4.



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## EUROPEAN SEARCH REPORT

Application Number

EP 90 30 7771

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.5 )
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	US-A-4685574 (VISUAL MARKETING) * column 4, line 50 - column 10, line 60; figures * ---	1	A47F3/14 A47F1/12
A	US-A-4736997 (GENERAL ELECTRIC COMPANY) * column 2, line 63 - column 5, line 5; figures 3, 4 * ---	1	
A	US-A-1818404 (KAUFMAN) * the whole document * ---	1	
A	GB-A-2027339 (CORJON) * pages 1 - 2, line 15; figures * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5 )
			A47F
<p>The present search report has been drawn up for all claims</p>			
Place of search		Date of completion of the search	Examiner
THE HAGUE		27 SEPTEMBER 1990	DE GROOT R.K.
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			